ACC.15
TCT@ACC-i2 | innovation in intervention

A569
JACC March 17, 2015
Volume 65, Issue 10S

Congenital Heart Disease

IMPACT OF PERSISTENT RIGHT TO LEFT SHUNT IN DEVICE-OCCLUDED ATRIAL SEPTAL DEFECTS

Poster Contributions
Poster Hall B1
Monday, March 16, 2015, 9:45 a.m.-10:30 a.m.

Session Title: Pediatric Congenital Heart Disease: Interventional
Abstract Category: 10. Congenital Heart Disease: Adult
Presentation Number: 1256-326

Authors: *Michael Zdradzinski, Abraham Abernethy, Kathryn Stackhouse, Rachel Elkin, Mohamed Halane, Wael ElMallah, Richard Krasuski, The Cleveland Clinic, Cleveland, OH, USA*

Background: Percutaneous device occlusion is the gold standard for repair of secundum atrial septal defects (ASD). The prevalence and impact of residual shunt after device closure is poorly understood.

Methods: From a prospective, single institution database of 447 patients undergoing ASD device closure, we identified 414 patients with technically adequate bubble studies prior to closure. Follow-up echos were available at 1 month in 373, 3 months in 315 and 1 year in 220 patients. Survival in the latter cohort was assessed through careful review of electronic medical records and confirmed using the Social Security Death Index.

Results: Right to left shunting (RLS) was present in 14% at 1 month, 16% at 3 months and 14% at 1 year. Patients with RLS at 1 year were similar to those without shunt in age, gender, ASD size (22±6 vs 21±13), hemodynamics and comorbidities. RLS patients were more likely to be Caucasian (77% vs 46%, p=0.003). More patients with RLS tended to have enlarged right atria (75% vs 54%, p=0.093) and right ventricles (93% vs 79%, p=0.118) at baseline. During follow-up 3 patients with RLS underwent re-attempt at closure and 2 underwent surgery. Over a median follow-up of 6.7 years, 17% with RLS at 1 year died compared to 4% without shunt (p=0.014). Kaplan-Meier analysis was similarly significant (Graph). Hazard ratio for RLS was 3.6 (95% confidence interval 1.1 to 11.4, p=0.041).

Conclusion: Persistent shunt after device closure of secundum ASD is common and appears to negatively impact long-term survival.